Checklist of Odonata of Kerala with their Malayalam names Kiran.C.G.' and David V.Raju²

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Introduction

The state of Kerala is a narrow stretch of land sandwiched between windward side of the southern Western Ghats and Arabian Sea. Located between 8°18'-12°48' N latitude. Kerala is enriched with a myriad of flora and fauna. From sea level up to 2694m in high mountains of Western Ghats, the state is truly blessed in terms of invertebrate diversity. An average annual rainfall of 3107 mm and 44 rivers makes this region highly habitable for Odonates. Odonata is one of the ancient groups of large invertebrates having 5740 species globally. In India Odonata comprise of 470 species in 139 genera and 19 families (Subramanian, 2009)

Odonata studies in India started with Linnaeus and Selys-Longchamps, and later were taken to its pinnacle by the exemplary works of Laidlaw and Fraser.F.C. The three Volume book, written by Fraser F.C. 'Fauna of British India, Including Ceylon and Burma published in 1933,1934 and 1936 respectively was a milestone in Odonata research in India. Post independence the works mainly revolved around scientists from the Zoological Survey of India and regional Universities with many papers on Odonata distribution, new species descriptions and life histories. Prasad & Varshney (1995) published the checklist of Odonates of India, which was a major landmark in Odonata studies in the last century.

After the studies of Fraser, which were restricted to the region north of Cochin, there was a significant lacuna in the study of Odonata in Kerala. This was later being filled-in gradually, by works of Muhamed Jafer Palot, Emiliyamma, K.G and Francy Kakkasery. Peters described the last new species Agriocnemis keralensis, from the state in 1981 from Trivandrum (Peters 1981). The first attempt of coining Malayalam names for 30 common species of Kerala was undertaken by Muhamed Jafer Palot and Babu Kambrath (2001). The Pictorial handbook on common Dragonflies and Damselflies of Kerala by Emiliyamma et al. (2005) was the first book on dragonflies of the state. Dr. Francy Kakkassery was instrumental in popularizing common odonates of Kerala in Internet. He also contributed to life history studies of few Odonata in Kerala (Kiran & Kakkasery ,2007). Emiliyamma et al., (2007) documented 136 species on their work on Odonata diversity of the state. Another significant and popular book was Dragonflies and Damselflies of Peninsular India - A Field Guide, (Subramanian, 2009) this contributed significantly to the knowledge on Indian Odonata and helped to bring Odonata watching as an interesting pastime among the masses.

Here in this paper we report 147 species from 14 families from the state of Kerala. This is the first exhaustive list of Odonata from the state based on our extensive fieldwork spanning the last 12 years.

Checklist of Odonates of Kerala with vernacular names

	Scientific name	Malayalam Name	English Name
	Class: Insecta		
	Order: Odonata		
	Suborder: Anisoptera	കല്ലൻതുമ്പികൾ	Dragonflies
	Family: Aeshnidae	സൂചിവാലൻ കല്ലൻതുമ്പികൾ	Darners
1	Anaciaeschna jaspidea (Burmeister, 1839)	തുരുമ്പൻ രാജൻ	Rusty Darner
2	Anaciaeschna donaldi Fraser, 1922	ചോല രാജൻ	Donald's Darner
3	Anax guttatus (Burmeister, 1839)	മരതക രാജൻ	Blue-Tailed Green Darner
4	Anax immaculifrons Rambur, 1842	നീല രാജൻ	Blue Darner
5	Anax parthenope (Selys, 1839)	തവിട്ട് രാജൻ	Dusky Darner
6	Gynacantha bayadera Sclys,1891	തത്തമാതുസ്വി	Parakeet Darner
7	Gynacantha dravida Lieftinck, 1960	സൂചിവാലൻ രാകൊതിച്ചി	Brown Darner
8	Hemianax ephippiger (Burmeister, 1839)	തുരുവാൻ ചാത്തൻ	Ochre Damer
	Family:Chlorogomphidae	മലമുത്ത ന്മാർ	Mountain Hawks
9	Chlorogomphus campioni (Fraser,1924)	നീലയിരി ചലച്ചുത്തൻ	Nilgiri Mountain Hawk
10	Chlorogomphus xanthoptera (Fraser, 1919)	ആനാല മലമുത്തൻ	Anamalai Mountain Hawk
	Family:Corduliidae	കോമരന്മാർ	Daggerheads
11	Hemicordulia asiatica Selys, 1878	കാട്ടു മരതകൻ	Indian Emerald
12	Idionyx minima Fraser,1931	ചിണൻ കോമരം	Little Daggerhead
13	Idionyx rhinoceroides Fraser,1934	കൊമ്പൻ കോർരം	Rhinoceros Daggerhead
14	Idionyx saffronata Fraser,1924	കാവി കോമരം	Saffron Daggerhead

61 Orthetrum glaucum (Brauer, 1865)

Blue Marsh Hawk

Travancore Daggerhead 15 Idionyx travancorensis Fraser, 1931 തെക്കൻ കോരം 16 Idionyx corona Fraser, 1921 Little Daggerhead നീലഗിരി കോമരം 17 Idionyx nadganiensis Fraser, 1924 Stripped Daggerhead വരയൻ കോടരം 18 Macromidia donaldi (Fraser, 1924) Dark Daggerhead നിഴൽ കോടരം Clubtails Family:Gomphidae കടുവ തൂമ്പികൾ 19 Acrogomphus fraseri Laidlaw, 1925 Fraser's Clubtail പൊക്കൻ കടുവ 20 Asiagomphus nilgiricus Nilgiri Clubtail പാറമുത്തൻ കടുവ 21 Burmagomphus pyramidalis Laidlaw, 1922 Spotted Sinuate Clubtail പുള്ളി ചതുരവാലൻ കടുവ 22 Burmagomphus laidlawi Fraser, 1924 Plain Sinuate Clubtail ചതുരവാലൻ കടുവ 23 Davidioides martini Fraser, 1924 Syrandhri Clubtail സൈരന്ദ്രി കടുവ 24 Gomphidia kodaguensis Fraser, 1923 Kodagu Clubtail പുഴ കടുവ 25 Heliogomphus kalarensis Fraser, 1934 Forest Lyretail ചോല കടുവ 26 Heliogomphus promelas (Selys, 1873) Spotted Lyretail പുള്ളിവാലൻ ചോല കടുവ 27 Ictinogomphus rapax (Rambur, 1842) Common Clubtail നാടു കടുവ Wayanad Bowtail 28 Macrogomphus wynaadicus Fraser, 1924 വയനാടൻ കടുവ 29 Megalogomphus hannyngtoni (Fraser, 1923) Giant Clubtail പെരുവാലൻ കടുവ 30 Megalogomphus superbus Fraser, 1931 Beautiful Clubtail ചോര പെരുവാലൻ കടുവ Long Legged Clubtail 31 Merogomphus longistigma (Fraser, 1922) പെരുകാലൻ കടുവ 32 Merogomphus longistigma tamaracherriensis Laidlaw, 1931 Malabar Long Legged Clubtail വടക്കൻ പെരുകാലൻ കടുവ 33 Microgomphus souteri Fraser, 1924 Pigmy Clubtail കടുവാ ചിന്നൻ Malabar Clawtail 34 Onychogomphus malabarensis (Fraser, 1924) വടക്കൻ നഖവാലൻ 35 Onychogomphus nilgiriensis (Fraser, 1922) ന്നീലതിരി നഖവാലൻ Nilgiri Clawtail കുറു നഖവാലൻ Laidlaw's Clawtail 36 Onychogomphus acinaces (Laidlaw, 1922) 37 Paragomphus lineatus (Selys, 1850) Common Hooktail ചുണ്ടവാലൻ കടുവ Family:Libellulidae Skimmers നീർ മുത്തന്മാർ 38 Acisoma panorpoides Rambur, 1842 Trumpet-Tail മചാരവാലൻ തുമ്പി 39 Aethriamanta brevipennis (Rambur, 1842) Scarlet Marsh Hawk തീക്കര് (മൂത്തൻ 40 Brachydiplax chalybea Brauer, 1868 Rufous-Backed Marsh Hawk തവിട്ടു വെണ്ണീറൻ 41 Brachydiplax sobrina (Rambur, 1842) Little Blue Marsh Hawk ചെറു് വെണ്ണീറൻ Ditch Jewel 42 Brachythemis contaminata (Fabricius, 1793) ചങ്ങാതി തുമ്പി 43 Bradinopyga geminata (Rambur, 1842) മതിൽ തുമ്പി Granite Ghost Emerald-Banded Skimmer 44 Cratilia lineata Foerster, 1903 കാട്ടു പതുങ്ങൻ 45 Crocothemis servilia (Drury, 1770) Ruddy Marsh Skimmer വയൽ തുമ്പി 46 Diplacodes lefebvrii (Rambur, 1842) കരിനിലത്തൻ Black Ground Skimmer 47 Diplacodes nebulosa (Fabricius, 1793) Black Tipped Ground Skimmer ചുട്ടി നിലത്തൻ 48 Diplacodes trivialis (Rambur, 1842) Ground Skimmer നാട്ടു നിലത്തൻ 49 Epithemis mariae (Laidlaw, 1915) Rubytailed Hawklet തീകറുഷൻ Amber Winged Marsh Glider 50 Hydrobasileus croceus (Brauer, 1867) പാണ്ടണ്ടൻ പരുന്തൻ 51 Hylaeothemis indica Fraser, 1946 Blue Hawklet ന്നീല നീർത്തോഴൻ 52 Indothemis carnatica (Fabricius, 1798) Black Scrub Glider കരിമ്പൻ ചരൽമുത്തി 53 Lathrecista asiatica (Fabricius, 1798) Asiatic Blood Tail ചോരവാലൻ തുമ്പി 54 Lyriothemis species* Blood Tail വർണ്ണ തുമ്പി Estuarine Skimmer 55 Macrodiplax cora (Brauer, 1867) പൊഴി തുമ്പി 56 Neurothemis fulvia (Drury, 1773) തവിടൻ തുരുമ്പൻ Fulvous Forest Skimmer 57 Neurothemis intermedia (Rambur, 1842) Ruddy Meadow Skimmer പുൽ തുരുമ്പൻ 58 Neurothemis tullia (Drury, 1773) Pied Paddy Skimmer മ്പ്യാമി തുമ്പി 59 Onychothemis testacea Laidlaw, 1902 കാട്ടു പുള്ളൻ Stellate River Hawk 50 Orthetrum chrysis (Selvs, 1891) Brown-Backed Red Marsh Hawk ചെന്തവിടൻ വ്യാളി

നീല വ്യാളി

62 Orthetrum luzonicum (Brauer, 1868)	ത്രിവർണ്ണൻ വ്യാളി	Tricoloured Marsh Hawk
63 Orthetrum pruinosum (Burmeister, 1839)	പവിഴവാലൻ വ്യാളി	Crimson-Tailed Marsh Hawk
64 Orthetrum sabina (Drury, 1770)	പച്ച വ്യാളി	Green Marsh Hawk
65 Orthetrum taeniolatum (Schneider, 1845)	ചെറു വ്യാളി	Ashy Marsh Hawk
66 Orthetrum triangulare (Selys, 1878)	നീല കറുഷൻ വ്യാളി	Blue-Tailed Forest Hawk
67 Palpopleura sexmaculata (Fabricius, 1787)	നീല കുറുവാലൻ	Blue-Tailed Yellow Skimmer
68 Pantala flavescens (Fabricius, 1798)	ഓണതുമ്പി	Wandering Glider
69 Potamarcha congener (Rambur, 1842)	പുള്ളിവാലൻ	Yellow-Tailed Ashy Skimmer
70 Rhodothemis rufa (Rambur, 1842)	ചെമ്പൻ തുമ്പി	Rufous Marsh Glider
71 Rhyothemis triangularis Kirby, 1889	കരിന്1ലചിറകൻ	Lesser Blue Wing
72 Rhyothemis variegata (Linnacus, 1763)	ശല'ത്തുതുമ്പി	Common Picturewing
73 Sympetrum fonscolombii (Selys, 1840)	കുകുമച്ചിറകൻ	Red-Veined Darter
74 Tetrathemis platyptera Selys, 1878	കുള്ളൻ തുമ്പി	Pigmy Skimmer
75 Tholymis tillarga (Fabricius, 1798)	പവിഴ വാലൻ	Coral-Tailed Cloud-Wing
76 Tramea basilaris (Palisot de Beauvois, 1805)	ചെമ്പൻ പരുന്തൻ	Red Marsh Trotter
77 Tramea limbata (Desjardins,1832)	കരിമ്പൻ പരുന്തൻ	Black Marsh Trotter
78 Trithemis aurora (Burmeister, 1839)	സിന്ധൂരച്ചിറകൻ	Crimson Marsh Glider
79 Trithemis festiva (Rambur, 1842)	കാർത്തുസി	Black Stream Glider
80 Trithemis kirbyi Selys, 1891	ചോഷൻ പാറമുത്തി	Scarlet Rock Glider
81 Trithemis pallidinervis (Kirby, 1889)	കറ്റാടി തുമ്പി	Long-Legged Marsh Glider
82 Urothemis signata (Rambur, 1842)	പാണുണ്ടൻ വയൽതെയ്യൻ	Greater Crimson Glider
83 Zygonyx iris Selys,1869	നീരോട്ടക്കാരൻ	Iridescent Stream Glider
84 Zyxomma petiolatum Rambur, 1842	സൂചിവാലൻ സന്ധ്യതുമ്പി	Brown Dusk Hawk
Family: Macromiidae	നീർകാവലന്മാർ	Torrent Hawk
85 Epophthalmia frontalis Selys, 1871	പുള്ളി നീർകാവലൻ	Spotted Torrent Hawk
86 Epophthalmia vittata Burmeister,1839	നാട്ടു ന്നീർകാവലൻ	Common Torrent Hawk
87 Macromia annaimalaiensis Fraser,1931	കാട്ടു പെരുംകണ്ണൻ	Anamalai Torrent Hawk
88 Macromia flavocolorata Fraser, 1922	മഞ്ഞ ഒപരുംകണ്ണൻ	Yellow Torrent Hawk
89 Macromia indica Fraser, 1924	നാട്ടു പെരുംകണ്ണൻ	Indian Torrent Hawk
90 Macromia irata Fraser,1924	പെരുംകണ്ണൻ	Fraser's Torrent Hawk
Suborder:Zygoptera	സൂചിതുമ്പികൾ	Damselflies
Family:Calopterygidae	മരതകതുമ്പികൾ	Glories
91 Neurobasis chinensis (Linnaeus, 1758)	പീലിതുമ്പി	Stream Glory
92 Vestalis apicalis Selys, 1873	ചുട്ടിച്ചിറകൻ തണൽ തുമ്പി	Black-Tipped Forest Glory
93 Vestalis gracilis (Rambur, 1842)	തണൽ തുമ്പി	Clear-Winged Forest Glory
93 Vestalis gracilis montana (Fraser, 1934)	കാട്ടു തണൽ തുമ്പി	Montane Forest Glory
Family:Chlorocyphidae	നീർരത്നന്മാർ	Stream Jewels
94 Calocypha laidlawi (Fraser,1924)	ചേ പവർണ്ണൻ	Myristica Sapphire
95 Libellago lineata (Burmeister, 1839)	തവളക്കണ്ണൻ	River Heliodor
96 Rhinocypha bisignata Hagen in Selys,1853	നീർമാണിക്കൻ	Stream Ruby
Family:Coenagrionidae	നിലത്തന്മാർ	Marsh Darts
97 Aciagrion hisopa (Selys, 1876)	നീലചിന്നൻ	Violet-Striped Slender Dartlet
98 Aciagrion occidentale Laidlaw, 1919	വ്യിലചുട്ടി	Green-Striped Slender Dartlet
99 Agriocnemis keralensis Peters, 1981	പത്തി പുൽചിന്നൻ	Kerala Dartlet
100 Agriocnemis pieris Laidlaw,1919	നാളു പുൽ ചിന്നൻ	Pygmy Dartlet
101 Agriocnemis pygmaea (Rambur, 1842)	വെള്ള പുൽപിന്നൻ	White Dartlet
102 Agriocnemis splendidissima Laidlaw,1919	കാട്ടു പുൽചിന്നൻ	Splendid Dartlet
103 Archibasis oscillans (Selys, 1877)	അരുവി തുമ്പി	Blue-Banded Longtail
104 Ceriagrion cerinorubellum (Brauer, 1865)	കനൽവാലൻ ചതുഷൻ	Orange-Tailed Marsh Dart
105 Ceriagrion coromandelianum (Fabricius, 1798)	നാട്ടു ചതുപ്പൻ	Coromandel Marsh Dart

106 Ceriagrion olivaceum Laidlaw, 1914 Rusty Marsh Dart കരിപേച്ച ചതുപ്പൻ Orange Marsh Dart 107 Ceriagrion rubiae Laidlaw, 1916 തീ ചതുപ്പൻ 108 Ischnura aurora (Brauer, 1865) Golden Dartlet മഞ്ഞ പുൽമാണിക്കൻ 109 Ischnura senegalensis (Rambur, 1842) Senegal Golden Dartlet നീല പുൽമാണികൻ 110 Mortonagrion varralli Fraser, 1920 Brown Dartlet കരിയിലത്തുമ്പി 111 Onychargia atrocyana (Selvs, 1865) എണ്ണക്കറുപ്പൻ. Black Marsh Dart 112 Paracercion calamorum (Ris, 1916) Dusky Lily Squatter ചുട്ടിവാലൻ താമരതുമ്പി 113 Pseudagrion decorum (Rambur, 1842) ഇളനീലി പുത്താലി Green-Striped Grass Dart 114 Pseudagrion indicum Fraser, 1924 മഞ്ഞവരയൻ പൂത്താലി Yellow-Striped Grass Dart 115 Pseudagrion malabaricum Fraser, 1924 Jungle Grass Dart കാട്ടു പൂത്താലി 116 Pseudagrion microcephalum Blue Grass Dart (Rambur, 1842) നാട്ടു പൂത്താലി Saffron-Faced Grass Dart 117 Pseudagrion rubriceps Selys, 1876 ചെമ്മുഖപ്പുത്താലി Family: Euphaeidae അരുവിയന്മാർ Torrent Darts 118 Dysphaea ethela Fraser, 1924 കരിമ്പൻ അരുവിയൻ Black Torrent Dart 119 Euphaea cardinalis (Fraser, 1924) തെക്കൻ അരുവിയൻ Travancore Torrent Dart 120 Euphaea dispar (Rambur, 1842) Nilgiri Torrent Dart വടക്കൻ അരുവിയൻ 121 Euphaea fraseri (Laidlaw, 1920) Malabar Torrent Dart ചെങ്കുറുപ്പൻ അരുവിയൻ Family:Lestidae ചേരാചിറകന്മാർ Spreadwings 122 Indolestes gracilis (Hagen in Selys, 1862) കാട്ടു വിരിച്ചിറകൻ Davenport's False Spreadwing 123 Lestes elatus Hagen in Selys, 1862 Emerald Spreadwing പച്ചവരയൻ ചേരാചിറകൻ 124 Lestes malabarica Fraser, 1929 മലബാർ ചേരാചിറകൻ Malabar Spreadwing 125 Lestes praemorsus Hagen in Selys, 1862 നീലക്കണ്ണി ചേരാചിറകൻ Sapphire-Eyed Spreadwing 126 Lestes umbrinus Selys, 1891* Brown Spreadwing തവിടൻ ചേരാചിരകൻ Family: Platycnemididae പാൽതുമ്പികൾ **Bush Darts** Copera marginipes (Rambur, 1842) Yellow Bush Dart മഞ്ഞകാലി പാൽതുമ്പി 127 Copera vittata Selys, 1863 ചെങ്കാലി പാൽതുമ്പി Blue Bush Dart Reedtails Family: Platystictidae നിഴൽതുമ്പികൾ കുകുാ നിഴൽതുമ്പി Saffron Reedtail 128 Platysticta deccanensis Laidlaw, 1915 129 Protosticta antelopoides Fraser, 1931 കൊമ്പൻ നിഴൽതുമ്പി Spiny Reedtail 130 Protosticta davenporti Fraser, 1931 ആനമല നിഴൽതുമ്പി Anamalai Reedtail Pied Reedtail 131 Protosticta gravelyi Laidlaw, 1915 പുള്ളി നിഴൽതുമ്പി 132 Protosticia hearseyi Fraser, 1922 Little Reedtail ചെറു നിളൽതുമ്പി Blue Necked Reedtail 133 Protosticta mortoni Fraser, 1924 നീലപിടലി നിഴൽതുമ്പി 134 Protosticta sanguinostigma Fraser, 1922 ചെമ്പൻ നിഴൽതുമ്പി Red Spotted Reedtail Bamboo Tails Family:Protoneuridae മുളവാലന്മാർ 135 Caconeura gomphoides (Rambur, 1842) Pale Spotted Bambootail മുളവാലൻ 136 Caconeura ramburi (Fraser, 1922) Coorg Bambootail മലബാർ മുളവാലൻ 137 Caconeura risi (Fraser, 1931) Wayanad Bambootail വയനാടൻ മുളവാലൻ 138 Disparoneura apicalis (Fraser, 1924) Black Tipped Bambootail ചുട്ടിചിറകൻ മുളവാലൻ 139 Disparoneura quadrimaculata കരിംചിറകൻ മുളവാലൻ Black-Winged Bambootail (Rambur, 1842) 140 Elattoneura souteri (Fraser, 1924) Red Striped Bambootail ചെങ്കറുഷൻ മുളവാലൻ 141 Elattoneura tetrica (Laidlaw, 1917) മഞ്ഞകാറുഷൻ മുളവാലൻ Black And Yellow Bambootail Palani Bambootail 142 Esme cyaneovittata Fraser, 1922 പളന്ന് മുളവാലൻ 143 Esme longistyla Fraser, 1931 Nilgiri Bambootail നീലഗിരി മുളവാലൻ 144 Esme mudiensis Fraser, 1931 Travancore Bambootail തെക്കൻ മുളവാലൻ 145 Melanoneura bilineata Fraser, 1922 Malabar Bambootail വടക്കൻ മുളവാലൻ

ചതുപ്പു മുളവാലൻ

കരിഞ്ചെമ്പൻ മുമവാലൻ

Myristica Bambootail

Black Bambootail

146 Phylloneura westermanni (Selys.1860)

147 Prodasineura verticalis (Selys, 1860)

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References:

Fraser, F.C (1933-36); The Fauna of British India, including Ceylon and Burma, Odonata, Vol I-III, Taylor and Francis Ltd., London.

Emiliyamma.K.G. Radhakrishnan.C., & Muhamed Jafer Palot (2005): Pictorial handbook on common Dragonflies and Damselflies of Kerala. Zoological Survey of India, Kolkata. 67pp.

Emiliyamma. K.G., Radhakrishnan.C., Muhamed Jafer Palot (2007): Odonata (Insecta) of Kerala, Zoological Survey of India, Kolkata.195pp+8 plates.

Muhamed Jafer Palot and Kambrath. 2001. Keralthile Thumbikal- Part-1. (Dragonflies & Damselflies of Kerala- Part-1). Balabhumi (Popular Children's weekly- as a Supplement - Center spread). 14 December 2001.

Muhamed Jafer Palot and Babu Kambrath. 2001. Keralthile Thumbikal- Part-2. (Dragonflies & Damselflies of Kerala- Part-2). Balabhumi (Popular Children's weekly- as a Supplement- Center spread). 21 December 2001.

Muhamed Jafer Palot and Babu Kambrath. 2001. Keralthile Thumbikal- Part-3. (Dragonflies & Damselflies of Kerala- Part-3). Balabhumi (Popular Children's weekly- as a Supplement - Center spread). 28 December 2001.

Kiran C.G & Kakaserry, F (2007): Observations on mating and oviposition behavior of *Tetrathemis platyptera* Selys 1878, in Odonata: Biology of Dragonflies, ed. Tyagi, B.K. Scientific Publishers, India. 349-355p.

Peters (1981): Trockenzeit-Libellen ausdem Indischen Tiefland Deutsch Entomologische Zeitschrift (N.F.) 28:93-108.

Prasad, M & Varshney, R.K. (1995): A checklist of the Odonata of India including data on larval studies. Oriental Insects, 29: 385-428p.

Subramanian, K.A. (2009): A checklist of Odonata (Insecta) of India, Zoological Survey of India. 36pp.

Subramanian, K.A. (2009): Dragonflies and Damselflies of Peninsular India - A Field Guide, Vigyan Prasar, Noida, India. 168pp.

Subramanian, K.A., Francy Kakkassery and Manjo, V.Nair (2011). The status and distribution of dragonflies and damselflies (Odonata) of the Western Ghats. In: Molur, S., Smith, K.G., Daniel, B.A and Darwall, W.R.T. (Compilers). The Status and Distribution of Freshwater Biodiversity in The Western Ghats. Pages 63-74. IUCN, Cambridge, UK & Zoo Outreach, Coimbatore, India.

Programme conducted

John C Smrithi Sangamam.

Inconnection with the 3rd death anniversary of our beloved guru, Prof. John C. Jacob a meeting of the *Prathishtanam* was conducted at Vadukunda Shiva Temple Auditorium, Madayipara, Kannur district on 15th October 2011. More than 60 members from various parts of Kerala had participated in the programme. Sri. A. Mohan Kumar, Civic Chandran, Sunil Kumar, C., Shivaprasad Master, Bhaskaran Vellur, Vishalakshan Master, G.K. Latha, Hari Chakkarakallu, Asha Hari, Sheeja Mottammal, Pavithran Vatakara, and Dr Jafer Palot spoke on the occasion.

Kerala Bird Race 2011

As part of the Kerala Birdrace-2011, sponsored by KeralaBirder (an internet mailing group of birdwatchers), along with The Hongkong and Shanghai Banking Corporation Limited (HSBC) and Yuhina Eco-Media, MNHS organized a birdrace in north Kerala on 13th November 2011. 16 teams (four members per team) from Kozhikode, Wynad, Kannur and Malappuram districts participated in the contest covering the northern districts of Kerala. The participants included children, young bird enthusiasts, teachers, social workers and nature lovers. They covered regions from Western Ghats to the coast exploring almost all the diverse habitats watching birds. The important birding locations covered during the dawn to -dusk survey by birders were Aralam WLS, Kannavam forests, Janakikkadu, Peruvanamuzhi, Malabar WLS, Periya Reserve Forests, Panamaram wetlands, Kadalundy

Community Reserve, Kattampalli, Chemballikundu, Ezhimla, Vellimuckuchali, Purathur, Kottooli wetlands, Kolavipalam, Puthiyappa beach, Mavoor wetlands, Kackavayal biodiversity centre, etc. As many as 211 species of birds were observed during the survey. The important bird species observed during the bird race were Watercock, Rufous Woodpecker, Ruddy Crake, Sanderling, Shahin Falcon, Drongo Cuckoo, Black-tailed



Godwit, Rosy Starling, Dollar Bird, Booted Eagle, etc.

After the day-long bird monitoring all the participating teams assembled in the evening at the Hemlet Hall, Hotel Yara, Calicut for sharing their experiences and ideas and enjoyed a delicious dinner. Shri. V.K. Sreevalsan, Divisional Forest Officer (DFO), Calicut inaugurated the concluding session. Dr. Vijayakumar.